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Electronic transport properties of Dirac fermions in graphene

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地点: 北京大学物理大楼中212教室

报告摘要: Study of graphene is an area of focus. The low-energy electron behavior in graphene is analogous to the massless Dirac fermions. In this presentation, starting from the basic description of the electrons in graphene, we talk about the theory for the electronic transport property of graphene and the comparison with experiments. The experiment result shows that the electric conductivity is linear in the carrier density. The charged impurities are responsible for this property. Since graphene is a two dimensional system, there should be exist weak localization effect. However, the experimental results on this problem were controversial. We will present a rigorous formalism for the electric transport of the Dirac fermions in graphene under the finite-range impurity scatterings and discuss the weak localization effect.

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